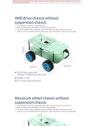


Q Roll over image to zoom in Click on image to zoom





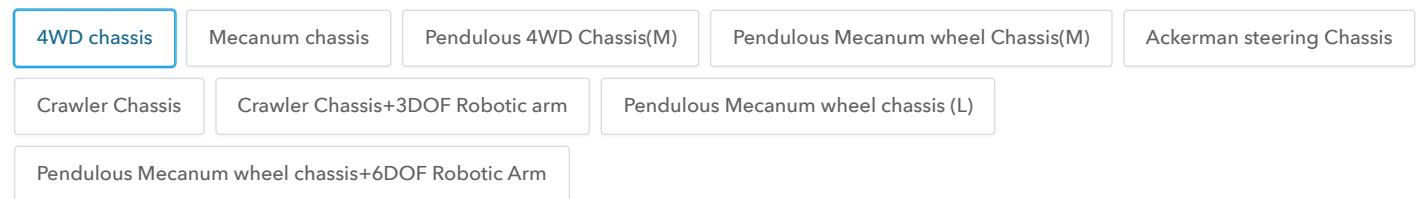
Yahboom Aluminum Alloy ROS Robot Car Chassis

★★★★★ 1 review

YAHBOOM SKU: 6000100997



Version: 4WD chassis



Price: \$89.99

Stock: In stock

Quantity:

Add to cart

Buy with

We have a total of 9 robot chassis for choice. They are made of green aluminum alloy, beautiful and durable. Equipped with 520 motor with encoder, which provides a strong power for the car. Each aluminum alloy accessory is designed with screw copper column holes with reasonable spacing. Users can install main control board, lidar, camera, display screen and other equipment by themselves. We provide 3D model files of each chassis for free, and users can use them for their own projects.

Feature

- 1) 9 kinds of chassis for choice
- 2) Mecanum wheel chassis: 65mm and 80mm Mecanum wheels are used respectively to achieve 360° omnidirectional movement.
- 3) Crawler chassis: Large size high-quality crawlers and motor with encoder(1:56) can be used to realize cross-country with complex terrain.
- 4) Pendulous suspension chassis: The exquisite pendulum suspension structure is adopted, so that the four wheels of the car can contact the ground regardless of any terrain, effectively preventing wheel slip, and can adapt to different terrain.
- 5) Chassis with robotic arm: Different degrees of freedom can be selected according to the demand, which can realize object clamping and handling.

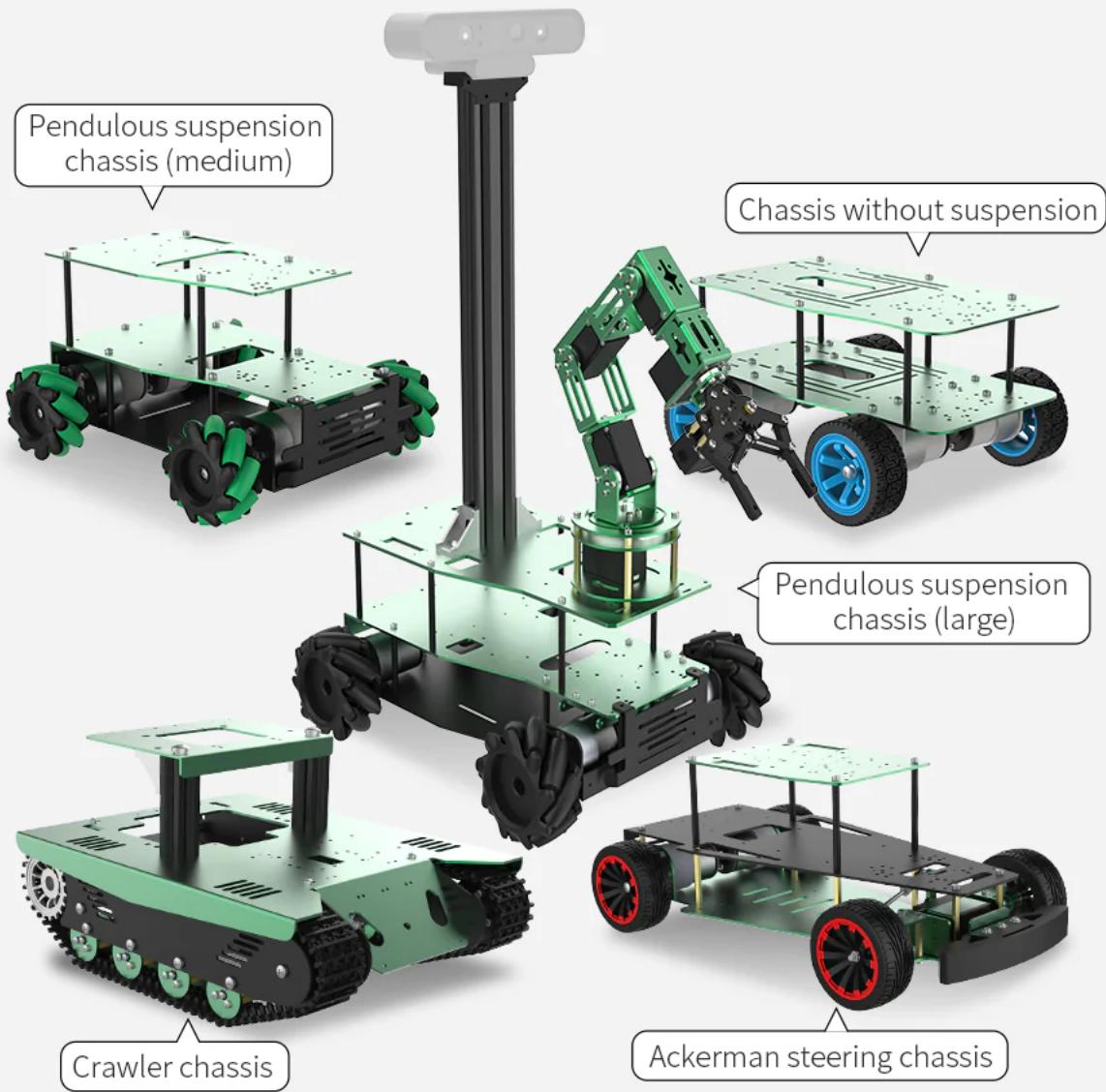
ROS Robot Car Chassis

All aluminum alloy frame

High precision motor with encoder

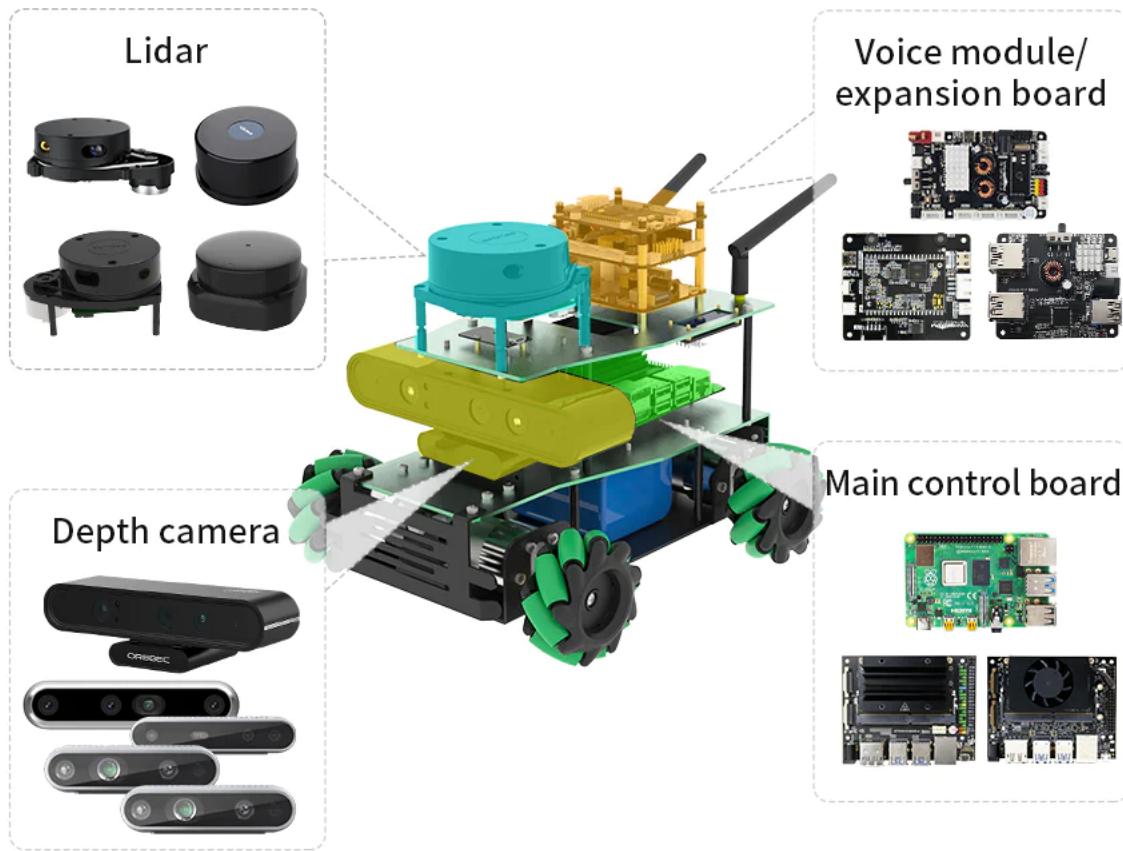
Multiple chassis structures are available

Compatible with many ROS accessories

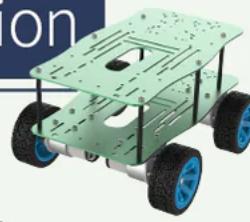


Chassis Type							
Car Model Description	Four wheels are driven independently, which can control the speed of each motor independently, it has abundant power and better expansion ability.	Four wheels are driven independently, 360° omnidirectional movement can be achieved, which is more flexible than other robot cars.	Four wheels are driven independently, which can control the speed of each motor independently. The pendulous suspension can make the four wheels touch the ground at the same time, so as to avoid the wheel slipping in the air.	Four wheels are driven independently, 360° omnidirectional movement can be achieved, which is more flexible than other robot cars. The pendulous suspension can make the four wheels touch the ground at the same time, so as to avoid the wheel slipping in the air.	Classic car model, rear drive differential drive, The front wheel steering gear controls the direction of rotation.	Crawler type mechanical structure can adapt to different terrain. It is characterized by differential rotation, strong load capacity, etc	Four wheels are driven independently, 360° omnidirectional movement can be achieved. The pendulous suspension can make the four wheels touch the ground at the same time. Large chassis can load more accessories; Support install robotic arm.
Drive structure	Four wheel independent drive				Rear drive differential, Ackerman steering	Crawler type	Fourwheel independent drive
Car weight	1275g	1296g	1328g	1350g	1173g	2010g	2020g
Dimension (including wheel width)	242*189*125mm	242*196.4*125mm	231*192*135mm	231*199*135mm	337*191*131mm	311.98*239*164.6mm	300*245*131mm
Wheel type	65mm High friction wheel	65mm Mecanum wheel	65mm High friction wheel	65mm Mecanum wheel	65mm Two color wheel anti-skid rubber tire	Nylon track	80mm Mecanum wheel
Motor reduction ratio	1:30				1:19	1:56	
Motor speed	333				550	205	
No load speed	About 1.12M/S				About 1.87M/S	About 0.69M/S	
Load capacity	3-4kg	4-6kg	3-4kg	4-6kg	2-3kg	8-11kg	7-10kg
Optional	/					3DOF quick release robotic arm	6DOF robotic arm, camera heiger bracket

Each chassis supports many ROS accessories

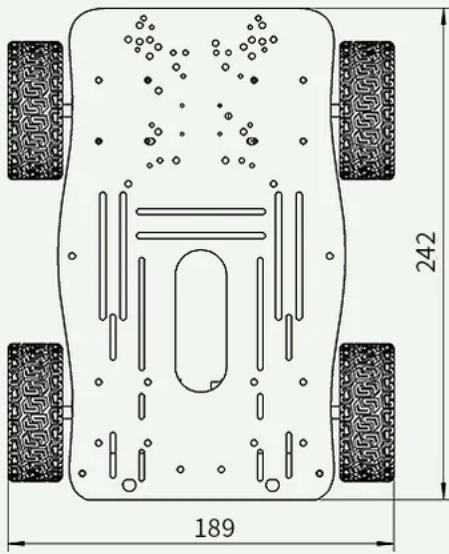


Chassis without suspension

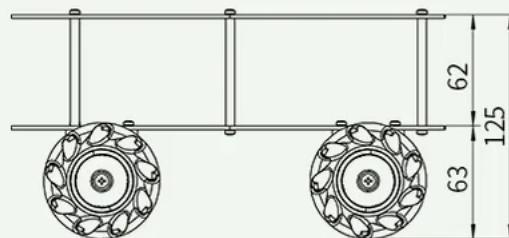
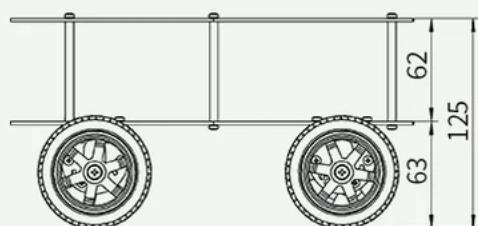
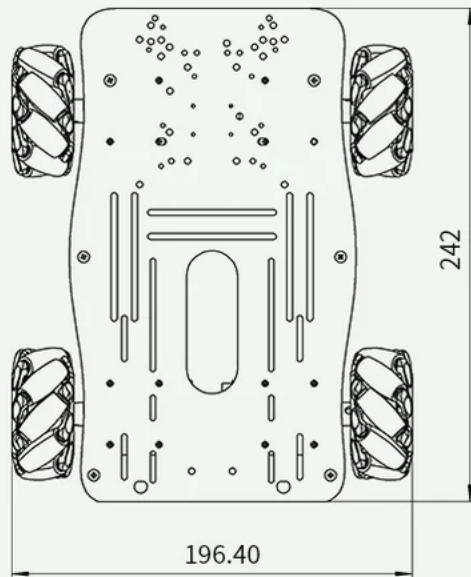


1 Chassis dimension picture Unit: mm

4WD chassis without suspension

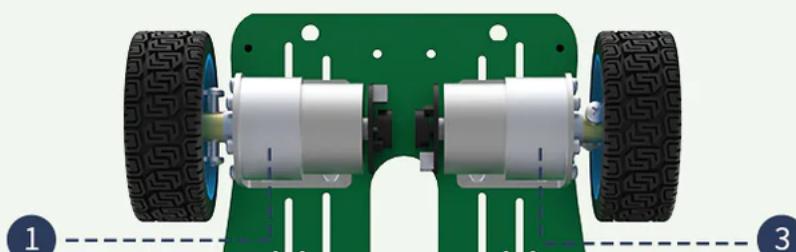


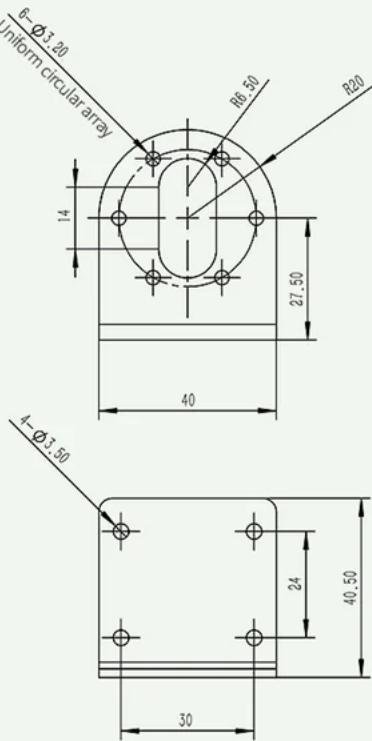
Mecanum wheel chassis without suspension



2 Equipped with four 520 motors with encoder

WD chassis without suspension and Mecanum wheel chassis without suspension are equipped with four DC motors with a reduction ratio of 1:30. The speed and torque of the motor can meet most use scenarios.





4

Unit: mm

4 Large friction rubber wheel and Mecanum wheel for choice



65mm high friction rubber tire

With 4WD chassis without suspension

The tires have small deformation and dense tread patterns, which are suitable for 4WD cars and can bear a certain weight.



65mm Mecanum wheel chassis

With Mecanum wheel chassis without suspension

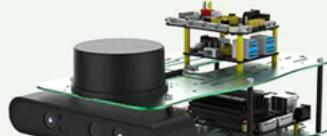
Mecanum wheel has compact structure and better flexibility, which can enable the car to realize flexible omni-directional lateral movement.

Name	65mm high friction rubber tire
Diameter	67.5mm
Width	26.5mm
Hub material	ABS electroplating
Inner gall	Sponge liner
Tyre	Soft rubber tire
Weight	36.5g

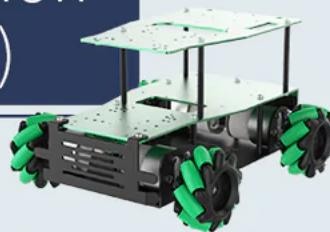
Name	65mm Mecanum wheel chassis
Diameter	65mm
Width	30.4mm
Hub material	PA66 engineering plastics
Inner gall	No
Tyre	TPU wear-resistant rubber
Weight	58.0g

5 Use Cases

4WD chassis without suspension + Astra Pro depth camera + 4ROS lidar

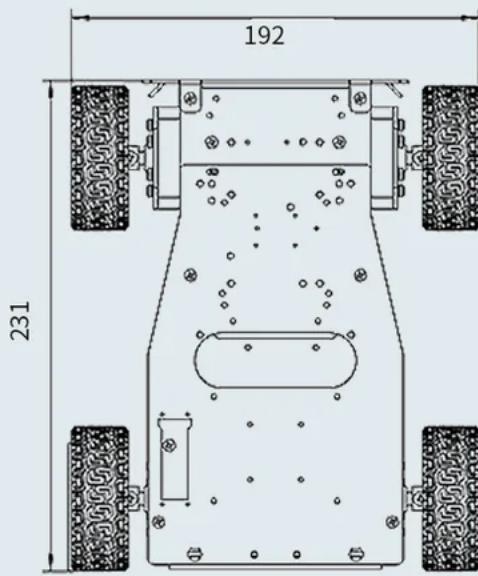


Pendulous Suspension Chassis (medium)

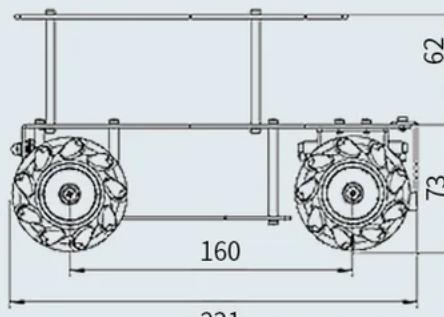
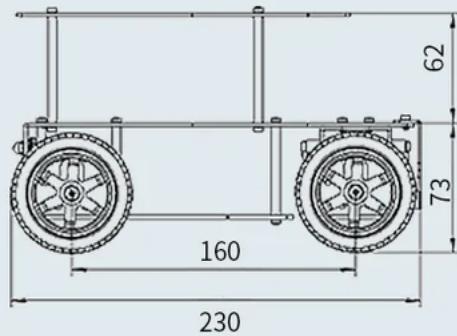
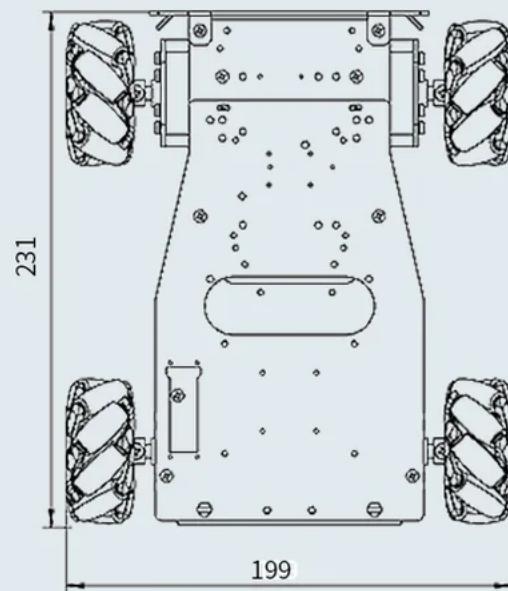


1 Chassis dimension picture Unit: mm

Pendulous suspension
4WD chassis (medium)

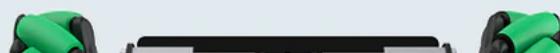


Pendulous suspension
Mecanum wheel chassis (medium)



2 Equipped with four 520 motors with encoder

4WD chassis with suspension and Mecanum wheel chassis with suspension are equipped with four DC motors with a reduction ratio of 1:30. The speed and torque of the motor can meet most use scenarios.



3 Pendulum suspension structure features

When the robot travels on uneven roads, it can automatically adapt to the uneven ground to ensure that all four wheels touch the ground at the same time, so as to prevent wheel slip from affecting motor encoder recognition.



4 Large friction rubber wheel and Mecanum wheel for choice



65mm high friction rubber tire
With 4WD chassis with pendulum suspension



65mm Mecanum wheel chassis
With Mecanum wheel chassis with pendulum suspension

The tires have small deformation and dense tread patterns, which are suitable for 4WD cars and can bear a certain weight.

Mecanum wheel has compact structure and better flexibility, which can enable the car to realize flexible omni-directional lateral movement.

5 Use Cases

Pendulous suspension 4WD chassis (medium) + Astra Pro depth camera + S2 lidar

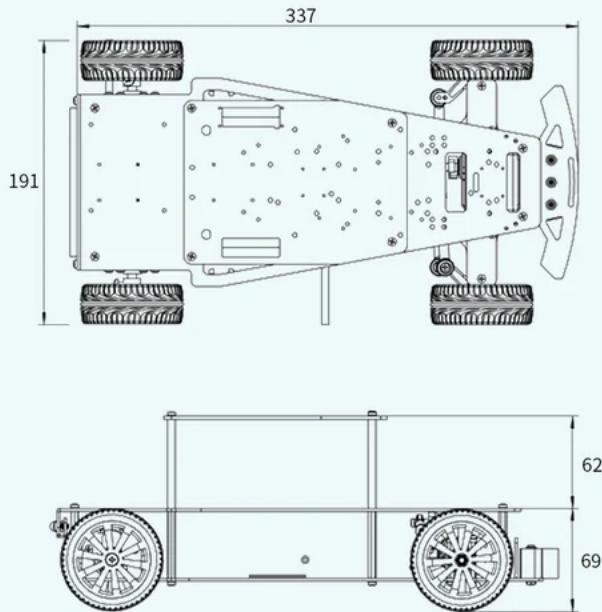


Ackerman steering chassis



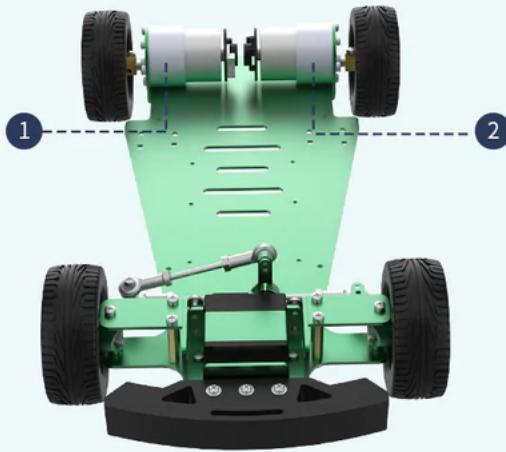
Unit: mm

1 Chassis dimension picture



2 Equipped with two 520 motors with encoder

Ackerman steering chassis is equipped with two DC motors with a reduction ratio of 1:19. Higher speed, lower torque, more suitable for automatic driving, racing and other use scenarios.



3 Ackerman steering structure features

Ackerman steering is a steering mode of modern cars. When the car turns, the aluminum alloy Ackerman chassis structure turns at different angles for the inner and outer wheels. The turning radius of the inner tire is smaller than that of the outer tire.



4 Two-color wheels non-slip rubber tires

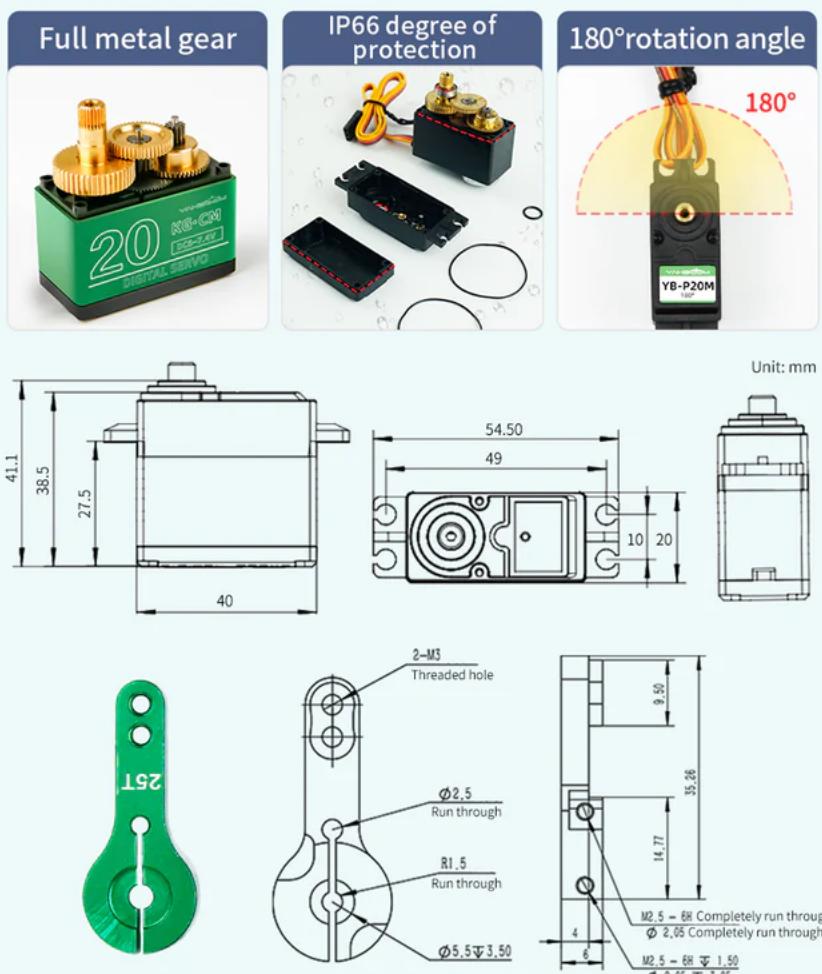
Tire skin is soft, the tread pattern is thin, and the red and black wheels are cool, which is suitable for Ackerman racing cars.



Name	Two-color wheels non-slip rubber tires
Diameter	68.5mm
Width	26.5mm
Wheel material	ABS electroplating
Liner	Sponge liner
Tire	Soft rubber tire
Weight	32.0g

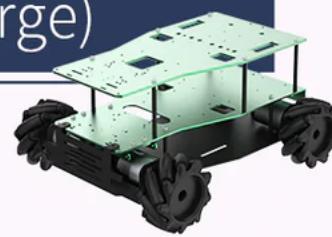
5 High-torque metal digital servo + metal rudder arm

The torque of 20KG servo is moderate, the stall current is small, and the response speed is fast. It is suitable for Ackermann steering models and can quickly and flexibly realize the steering of the front of the car.



Operating voltage	6.0~7.4V DC	Rotation angle	180°
No-load current	150mA (7.4V)	Servo cable length	300±5mm
No-load speed	0.20sec/60° (7.4V)	Gear material	Metal Gear
Stall torque	20kgf.cm (7.4V)	Output shaft material	Metal Shaft
Stall current	3.6A (7.4V)	Middle frame material	Metal center frame
Pulse width	500~2500us Corresponding	Control method	PWM pulse width control

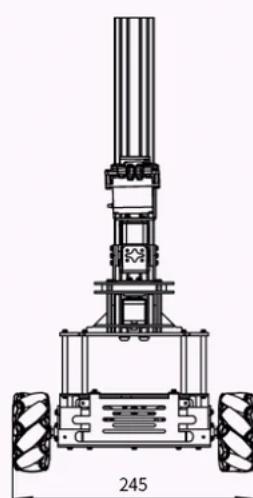
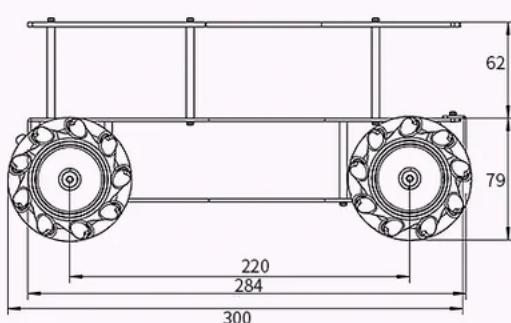
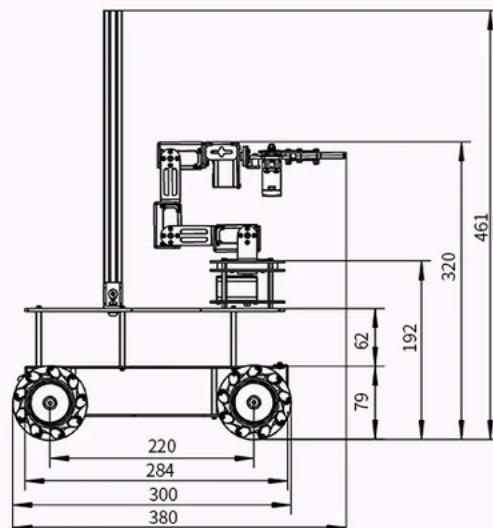
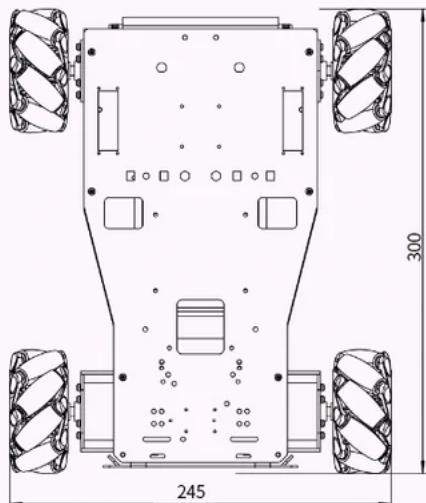
Pendulum suspension mecanum wheel chassis (large)



1 Chassis dimensions picture Unit: mm

Pendulum suspension
mecanum wheel chassis (large)

Pendulum suspension mecanum
wheel chassis (large) + 6DOF
robotic arm + depth camera bracket



2 Equipped with 4PCS 520 motors with encoder

The pendulum suspension wheat wheel chassis is equipped with 4PCS DC geared motors with a reduction ratio of 1:56. It has large torque, strong horsepower and excellent performance. It is suitable for large and high-load omni-directional mobile car.

3 Large size 80mm mecanum wheel

Mecanum wheel has compact structure and flexible movement. Using 4PCS wheels to assemble the car can make the car realize all-round lateral movement more flexibly and conveniently.

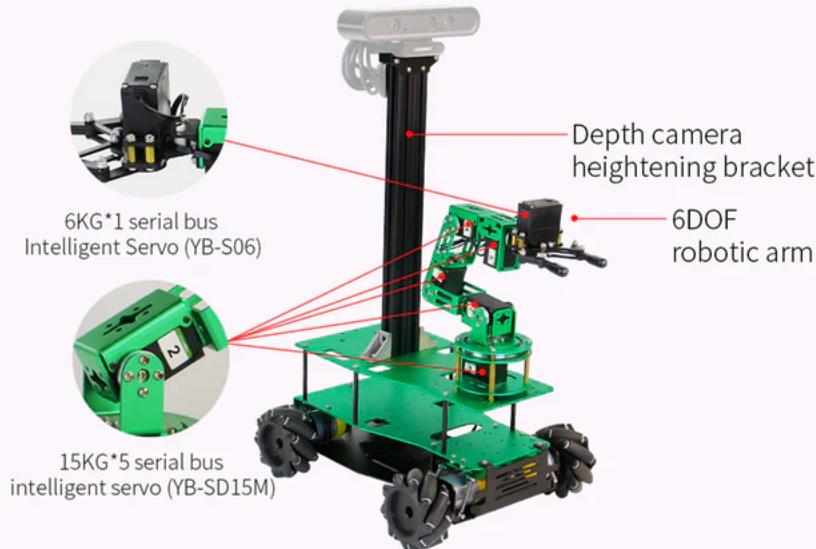


Name	80mm mecanum wheel
Diameter	80mm
Width	37.4mm
Wheel material	PA66 engineering plastic
Liner	No
Tire	TPU wear-resistant rubber
Weight	118.5g

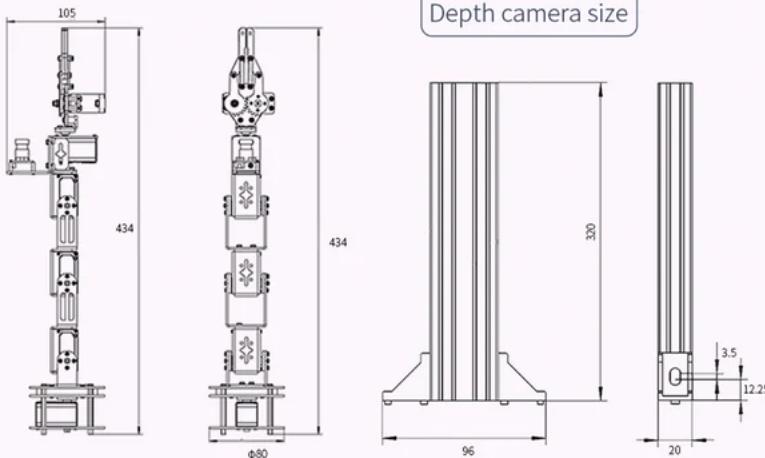
3

4

4 6DOF robotic arm + depth camera bracket(Optional)



Robotic arm size



Depth camera size

Pendulum suspension mecanum wheel chassis
(large) + Astra Pro depth camera + 2D electric PTZ

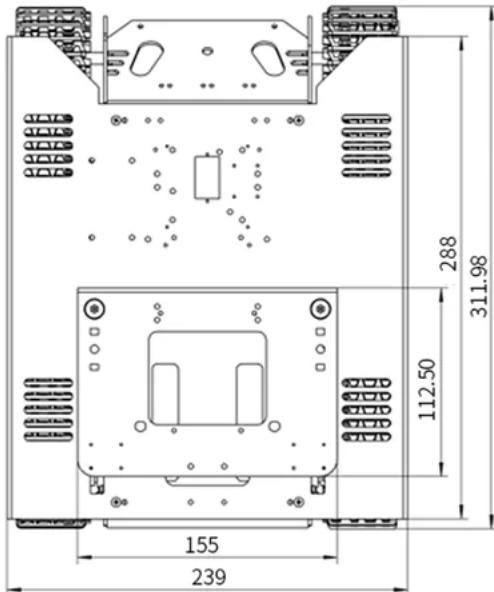


Crawler chassis

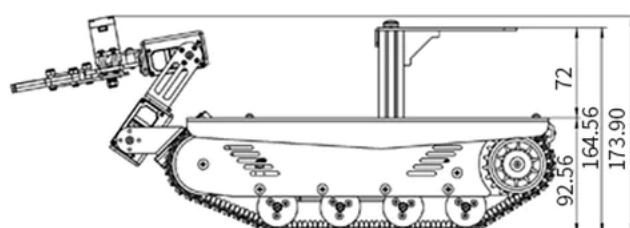
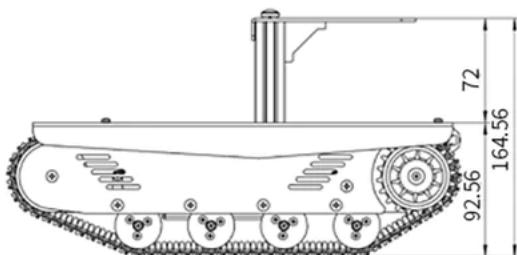
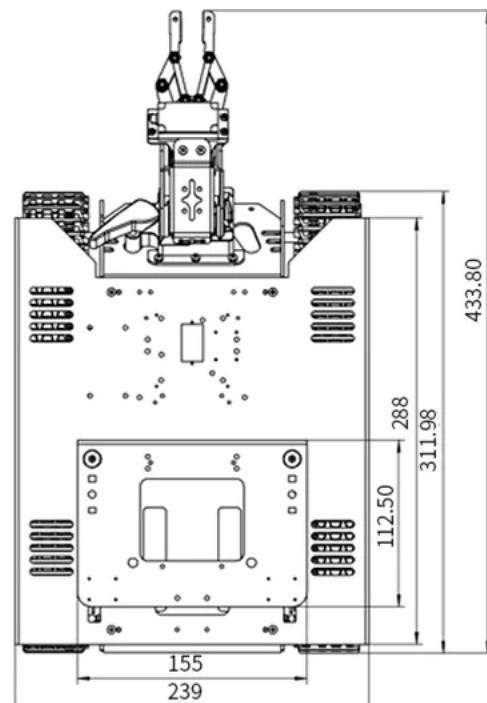


1 Chassis size picture Unit: mm

Crawler chassis



Crawler chassis +
3DOF robotic arm



2 Equipped with 2PCS 520 motors with encoder

The Crawler chassis is equipped with 2PCS DC geared motors with a reduction ratio of 1:56, lower speed and higher torque, suitable for off-road vehicles, tracked vehicles, tanks, etc.

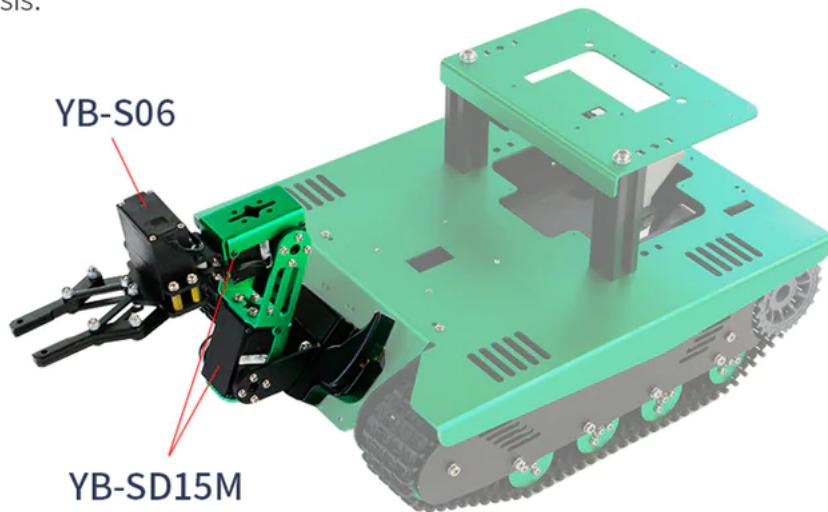
3 Crawler chassis structural features

The crawler chassis moves slowly and has a large weight, which has a certain ability to overcome obstacles and is suitable for indoor and outdoor scenes.



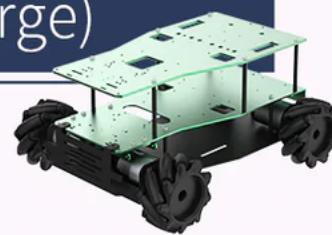
4 3DOF quick-release robotic arm (Optional)

Robotic arm adopts a quick-release design, which is very convenient to install and disassemble, and it can realize mobile grabbing with a crawler chassis.



Servo YB-S06 (Robotic arm 6KG servo)		Servo YB-SD15M (Robotic arm 15KG Servo)	
Maximum angle	180°	Maximum angle	300°±15°
Voltage	4.8~6V	Voltage	6.0~7.4V
Torque	8kgf.cm 6V	Torque	15kgf.cm 7.4V
Reaction speed	0.20sec/60° 6V	Reaction speed	0.30sec/60° 7.4V
Servo type	Plastic teeth for serial bus servo	Servo type	Plastic teeth for serial bus servo
Gear	Plastic gear	Gear	Metal gear
Weight	52±1g	Weight	50±1g
Work dead zone	5μs	Work dead zone	5μs

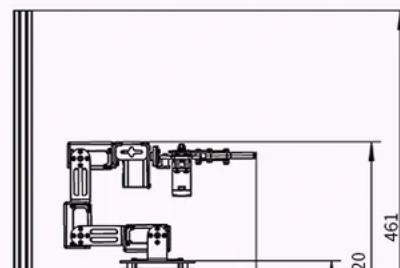
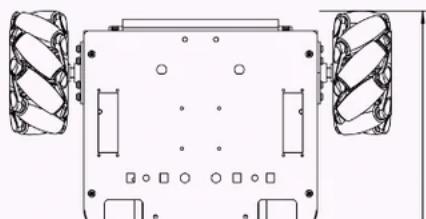
Pendulum suspension mecanum wheel chassis (large)



1 Chassis dimensions picture

Pendulum suspension
mecanum wheel chassis (large)

Pendulum suspension mecanum
wheel chassis (large) + 6DOF
robotic arm + depth camera bracket



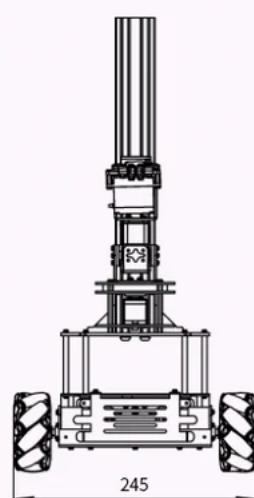
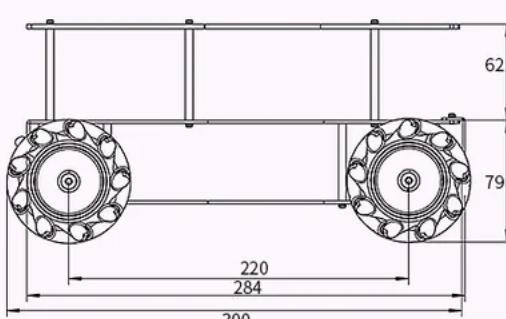
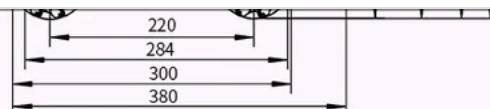
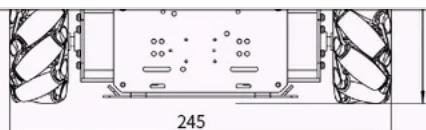
Search...

Close

Login / Signup



My account ▾



2 Equipped with 4PCS 520 motors with encoder

The pendulum suspension wheat wheel chassis is equipped with 4PCS DC geared motors with a reduction ratio of 1:56. It has large torque, strong horsepower and excellent performance. It is suitable for large and high-load omni-directional mobile car.

Help

Robot car chassis support accessories

	Support accessories	Chassis without pendulum suspension (4WD drive/ mecanum wheel)	Pendulum suspension chassis (4WD drive/ mecanum wheel)	Ackermann steering chassis	Crawler chassis	Crawler chassis + 3DOF mecanum wheel chassis + robotic arm	Pendulum suspension mecanum wheel chassis (large)	Pendulum suspension mecanum wheel chassis (large) + 6DOF robotic arm + camera bracket
Structure Class	Camera PTZ	✓	✓	✓	✓	✓	✓	
	2D structure electric PTZ	✓	✓	✓	✓	✓	✓	
	ROS 7-inch screen bracket	✓	✓	✓	✓	✓		
	Depth camera heightening bracket						✓	✓

All chassis of the following accessories support installation

Main control board	Raspberry Pi / Jetson series board
Depth camera	Astra Pro depth camera / Realsense series depth camera
Lidar	SLAM A1M8 / SLAM S2&S2L / YDLIDAR X3 / YDLIDAR 4ROS
Other Accessories	ROS robot control board / USB3.0 HUB expansion board / 10-axis IMU inertial navigation module / 12V lithium battery pack

Structural class



Main Control Board



Raspberry Pi 4B



Jetson series board

Depth Camera



Astra Pro depth camera



Realsense series depth camera

[Click to buy >](#)

Lidar



SLAM A1
Lidar



SLAM S2&S2
Lidar



YDLIDAR X3
Lidar



YDLIDAR 4ROS
Lidar

[Click to buy >](#)

Other Accessories



Voice interaction
module



ROS robot
control board



USB3.0 HUB
expansion board



10-axis IMU
inertial navigation
module

Motor Specifications



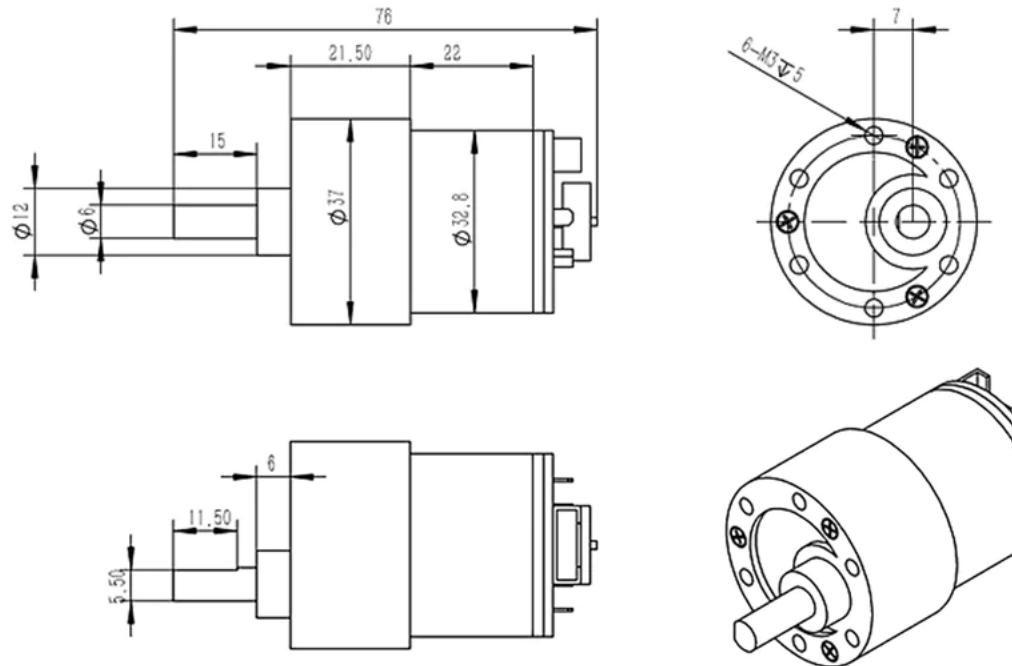
- 1: Motor power cord+
- 2: Motor power cord-
- 3: Sensor signal negative
- 4: Sensor signal positive 5V
- 5: Sensor signal line B phase
- 6: Sensor signal line A phase

Motor model	MD520Z19_12V	MD520Z30_12V	MD520Z56_12V
Motor rated voltage	12V		
Motor type	Permanent magnet with brush		
Output shaft	Diameter 6mm D-type eccentric shaft		
Stall torque	3.1kg·cm	4.8kg·cm	8.3kg·cm
Rated torque	2.2kg·cm	3.3kg·cm	6.5kg·cm
Speed before deceleration	11000rpm	10000rpm	12000rpm
Speed after deceleration	550±10rpm	333±10rpm	205±10rpm
Rated power	2.4W	2.4W	2.4W
Stall current	3A	3A	4A
Rated current	0.3A	0.3A	0.3A
Gear set reduction ratio	1:19	1:30	1:56
Encoder type	AB phase incremental hall encoder		
Encoder supply voltage	3.3-5V		
Number of magnetic loops	11 lines		
Interface Type	PH2.0 6Pin		
	With its own pull-up shaping, the single-chip microcomputer can		

Motor size picture

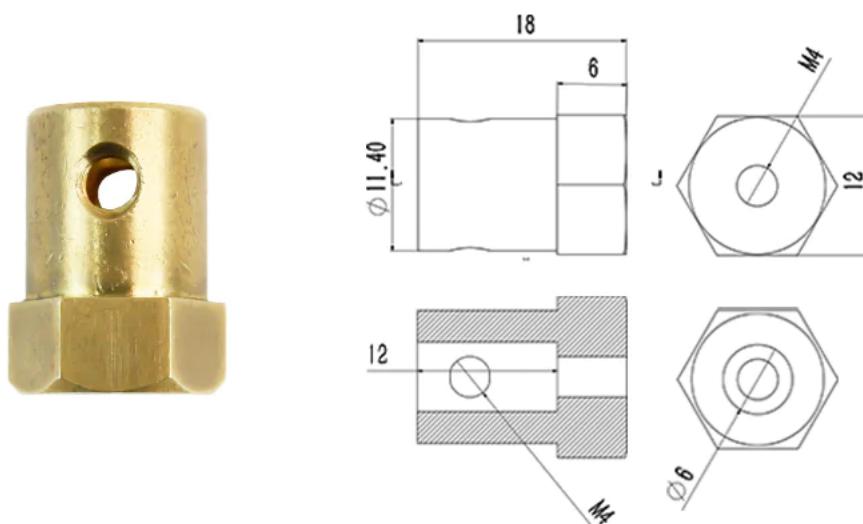
Motor output shaft: D-type shaft with a diameter of 6mm

Dimension unit:mm



Hexagon coupling parameters

All tires on this detail page are installed with hexagonal couplings



Name	Width across flats	Length	Inside diameter	Hole depth	Material /weight	Applicable motor	Applicable tire
					Brass	6mm output shaft motor	All tires on this detail

Professional Bluetooth APP for free

Waveform display
interface display

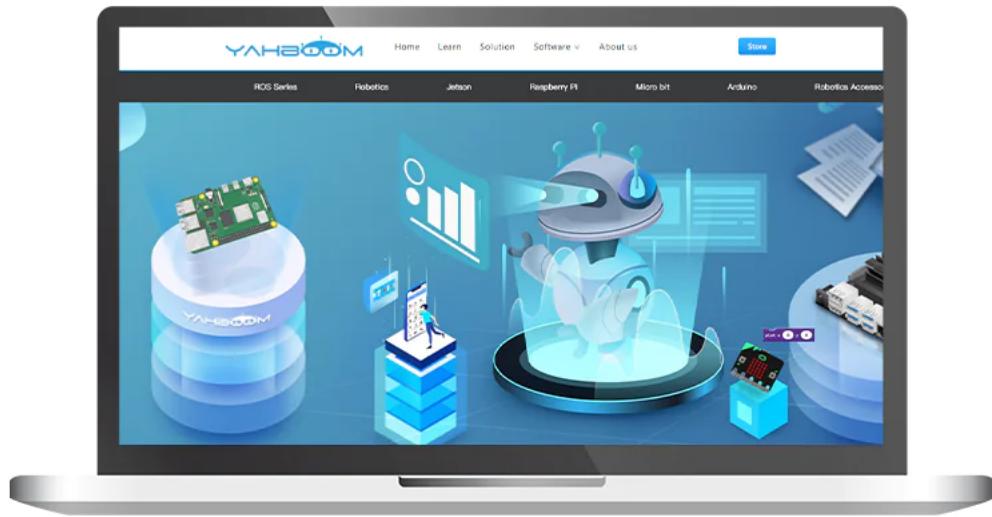
PID debugging
interface display



Main control interface display

Gift Information

Tutorial Link:www.yahboom.net/study/ROS-chassis



1.Chassis installation steps

2.Robot car driving tutorial

3.Motor hardware parameters

4.Chassis 3D model file

1.Control motor

2.Timer captures the encoder data

3.PID control robot movement

4.Mecanum wheel kinematic analysis

5.Ackerman kinematic analysis

6.4WD kinematic analysis

Codes

ReadMe.txt

4WD chassis without suspension chassis

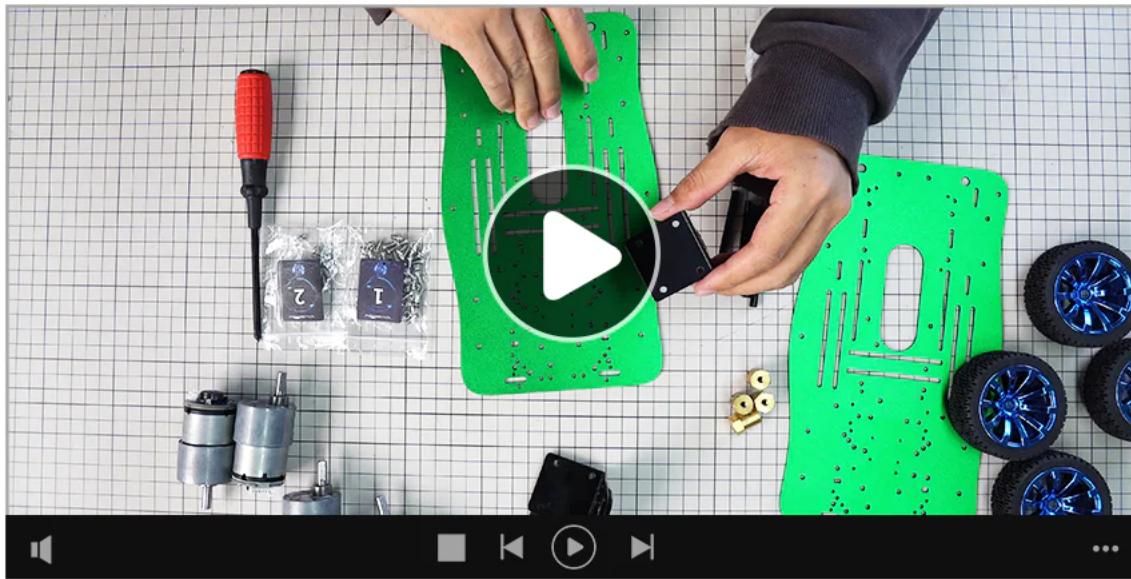
Ackerman steering chassis

Motor model

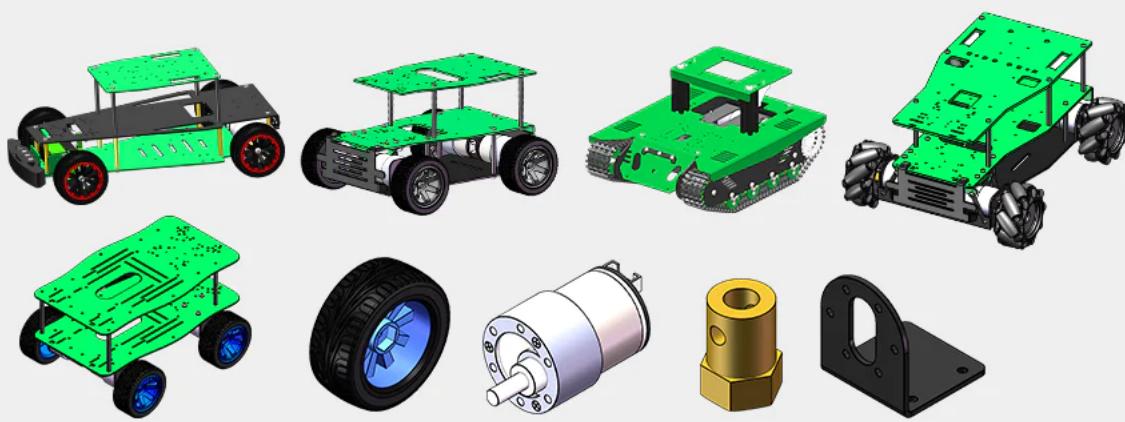
Pendulum suspension-Large

Pendulum suspension-Medium

Each chassis provides an installation video



Provide chassis and accessories 3D rendering model

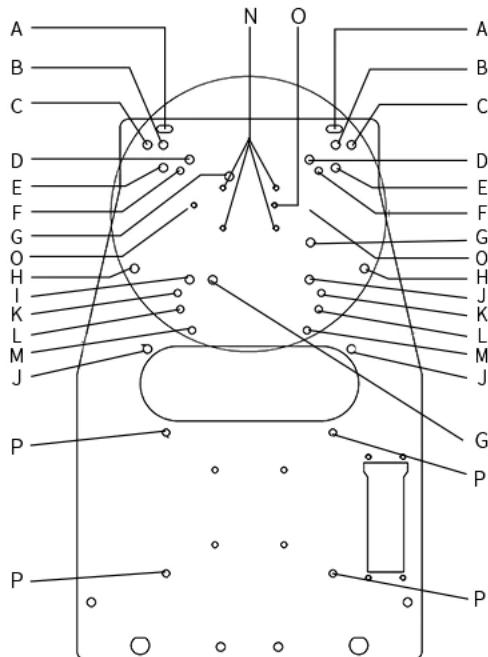


Chassis Hole Diagram

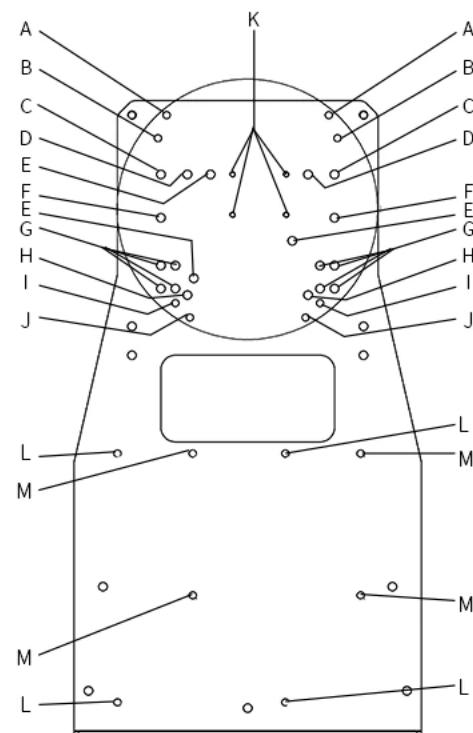
Each set of chassis provides the installation hole identification map

*The following only shows the pendulum suspension chassis (medium) as a example. For the detailed hole position diagram of other chassis, please refer to the detailed information tutorial.

Pendulum suspension chassis (medium) - Schematic Diagram of Holes



【Upper chassis】



【Lower layer of chassis】

Depth camera	B+E
SLAM S2 Lidar	D+I
YDLIDAR 4ROS Lidar	G
SLAM A1 Lidar	A+M
A1 serial port adapter board	N
YDLIDARX3 Lidar	A+K
2D electric PTZ	C+J
2DOF camera pan/tilt	F+L
Camera PTZ	O
Expansion board	P

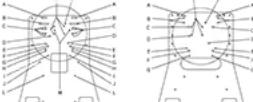
Depth camera	G
SLAM S2 Lidar	D+H
SLAM A1 Lidar	A+J
A1 serial port adapter board	K
YDLIDARX3 Lidar	B+I
Jetson Nano Series	L
Raspberry Pi	M

Chassis without suspension hole position diagram

Ackermann steering chassis hole position diagram

Tracked car chassis hole position diagram

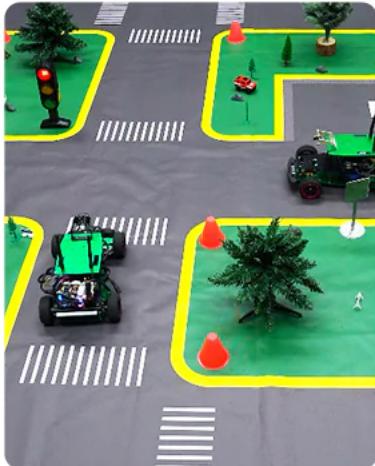
Pendulum suspension chassis (large) hole position diagram



Various structural forms meet different application scenarios



Indoor mapping
navigation



Autonomous
driving scenario



Field grass
obstacle course

Application field



Competition



Laboratory



University teaching

Shipping List

4WD drive chassis without suspension

- | | |
|---------------------------------------|---------------------------|
| 1.Aluminum alloy bottom plate*2 | 2.520 geared motor*4 |
| 3.520 motor bracket*4 | 4.Hexagonal coupling*4 |
| 5.65mm large friction rubber wheels*4 | 6.Screwdriver |
| 7.Copper post screw package | 8.2-Types of motor cables |

Mecanum wheel chassis without pendulum suspension

- | | |
|----------------------------------|---------------------------|
| 1.Aluminum alloy bottom plate *2 | 2.520 geared motor *4 |
| 3.520 motor bracket *4 | 4.Hexagonal coupling *4 |
| 5.65mm mecanum wheel *4 | 6.Screwdriver |
| 7.Copper post screw package | 8.2-Types of motor cables |

Pendulum suspension 4WD drive wheel chassis (medium)

- | | |
|---------------------------------------|----------------------------|
| 1.Aluminum alloy parts*6 | 2.Pendulum rotation axis*1 |
| 3.520 geared motor*1 | 4.Hexagonal coupling*4 |
| 5.65mm large friction rubber wheels*4 | 6.Screwdriver |
| 7.Copper post screw package | 8.2-Types of motor cables |

Pendulum suspension mecanum wheel chassis (medium)

- | | |
|---------------------------|-----------------------------|
| 1.Aluminum alloy parts*6 | 2.520 geared motor *1 |
| 3.520 geared motor*4 | 4.520 motor bracket*4 |
| 5.Hexagonal coupling*4 | 6.65mm mecanum wheel*4 |
| 7.Screwdriver | 8.Copper post screw package |
| 9.2-Types of motor cables | |

Ackermann steering chassis

- | | |
|--|-------------------------------------|
| 1.Ackerman steering group (basic parts such as motors and tires have been installed) | |
| 2.520 geared motor *2 | 3.20kg metal digital servo *1 |
| 4.Hexagonal coupling *2 | 5.65mm non-slip rubber tires *4 |
| 6.Middle layer aluminum alloy bottom plate | 7.Upper aluminum alloy bottom plate |
| 8.Screwdriver | 9.Copper post screw package |
| 10.2-Types of motor cables | |

Tracked car chassis

- | | |
|---|--------------------------------------|
| 1.Crawler chassis group (basic parts such as motor and crawler installed) | |
| 2.520 geared motor *2 | 3.Hexagonal coupling *2 |
| 4.Nylon track*2 | 5.Chassis group aluminum alloy cover |
| 6.Battery box aluminum alloy parts | 7.Lidar mounting plate |
| 8.Screwdriver | 9.Copper post screw package |
| 10.2-Types of motor cables | |

Tracked car chassis + 3DOF robotic arm

- | | |
|--|--------------------------------------|
| 1.Tracked chassis group (Basic components such as motors and crawlers have been installed) | |
| 2.520 geared motor*2 | 3.Hexagonal coupling*2 |
| 4.Nylon track *2 | 5.Chassis group aluminum alloy cover |
| 6.Battery box aluminum alloy parts | 7.Lidar mounting plate |
| 8.Screwdriver | 9.Copper post screw package |
| 10.2-Types of motor cables | 11.3DOF robotic arm group |

Buy on Amazon.us

Pendulum suspension chassis (Large) + 6DOF robotic arm + Depth camera heightening bracket

[View less](#)

Shipping and delivery Information

Free Shipping Policy

Start Date - All Time

End Date - All Time

Order less \$50 - You have to pay shipping fee, \$10 by default (small package Air) , or \$20 by DHL.

Order over \$50, less \$150 - Your order could enjoy free shipping by small package Air, or \$15 by DHL.

Orders over \$150 - Your order will enjoy free shipping via DHL. In most cases, it takes 3-5 working days to arrive.

Exceptions - Orders from countries in **Zone 9** are over \$300 for free DHL shipping. To see a full list of countries in zone 9, [click here](#).

Order less \$100 - Shipping fee is \$45 by DHL.

Order over \$100, less \$200 - Shipping fee is \$35 by DHL

Order over \$200, less \$300 - Shipping fee is \$25 by DHL

Orders over \$300 - Free shipping by DHL

Some of our products come with battery and motor. If DHL is not available to your country, we will change DHL to UPS, Fedex, or special line, depending on your country.

Distributors are not eligible for free shipping.

[View more](#)

Payment & Security

Payment



PayPal

The main Payment method is Paypal. If you have paypal, that is great. You can simply place order and check out with few steps. If you don't have Paypal account, you can register it and pay by Credit or Debit Card.

Pay with Paypal

[View more](#)

Customer Reviews

★★★★★
Based on 1 review



Most Recent ▾

F ★★★★★ 02/20/2023
Fyodor Dostoevsky

The value for money is excellent

I recently purchased this aluminum alloy car chassis kit and I am extremely happy with my purchase. The quality of the materials is excellent, and the construction is very sturdy and reliable.

QUESTIONS & ANSWERS

Have a Question?

Be the first to ask a question about this.

 Ask a Question

Estimate shipping

Country

United States

Province

Alabama

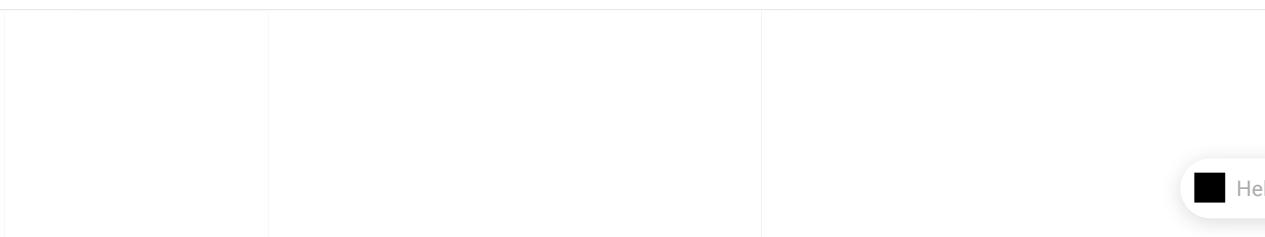
Zip code

Estimate

[Refund Policy](#)



You may also like



 Help

\$9.90

Vehemo AWD acoustic sensor

\$25.99

7 inch display screen
metal bracket stand for
ROS robot

Recently viewed

\$128.99

INFORMATION

[Home](#)

[About us](#)

[Blog](#)

CUSTOMER SERVICE

[Warranty](#)

[Shipping](#)

[Payment](#)

[FAQ](#)

TUTORIALS

[ROS Series](#)

[Jetson](#)

[Raspberry Pi](#)

[Micro:bit](#)

[Arduino](#)

[Accessory](#)

NEWSLETTER

A short sentence describing what someone will receive by subscribing

Your email

 Help

[Subscribe](#)

© 2023 Yahboom
Powered by Shopify

Follow Us

We Accept



© 2023 Yahboom
Powered by Shopify

Help